Comprehensive stroke care in the rural setting is not a myth

Point: Successful development of comprehensive stroke service is possible in the rural setting.

The Issue: Stroke is the 4th leading cause of death in the United States and 2nd leading cause of death in the EU and Europe. Total ischemic lesion volume of 1.5-4.3 cm³ equates to the death of approximately 2 million neurons and the decoupling of 1 billion synapses. Unique geography in the US leads to large areas of sparse population and limitation of service availability. We have created a comprehensive stroke program through the collaboration of multiple subspecialists including interventional neuroradiologists, neurologists, diagnostic radiologists, emergency physicians and first responders. These services are supported and coordinated through a unique logistics command center staffed 24 hours a day, 365 days a year with highly specialized nurses and emergency medicine technicians. Each patient’s journey begins with a contact to this center followed by an elegantly choreographed journey from transport through treatment and recovery.

The Geography: Roanoke Virginia is a small city in Appalachian Western Virginia with a population of 100,000 and catchment area of approximately 350,000. It is geographically isolated from large urban areas. Sites with equivalent capabilities are located 121 miles Northeast, University of Virginia Medical Center, 127 miles Southeast, Duke Medical Center, and 106 miles Southwest, Wake Forest Baptist Medical Center. Because time to treatment is critical, time being neurons, the success of this model represents hope for populations in similar regions.

The Message: Rural locations with geographical separation do not preclude development and growth of successful high quality stroke center programs. It is feasible to provide these services to rural regions with interdisciplinary collaboration, specialized communication and efficient transportation.

Biography

Evelyn Garcia completed her M.D. at the University of New Mexico School of Medicine, Diagnostic Radiology residency at the University of New Mexico Medical Center, and Body Imaging fellowship at the University of Utah Medical Center. She is board certified in Diagnostic Radiology and Cardiovascular Computed Tomography. She is the Chairman and Medical Director of Radiology at Virginia Tech Carilion School of Medicine and of Carilion Clinic, a six hospital system with 800 bed flagship Level I Trauma and Stroke certified center. She is imager for the structural heart valve team of Carilion Clinic.

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